

Claims

1. Tyre drum including a turn-up mechanism for use in building an unvulcanized tyre having tyre components of rubber, including reinforcement cords and two bead cores which either may or may not be provided with a bead filling strip, which tyre drum is provided with a central shaft, two ring segments placed around the shaft and spaced apart for supporting the bead cores and means for radially expanding the part of the tyre components that is situated within the ring segments and the tyre drum on either side outside of the ring segments being provided with a set of axially extending arms, the arms at a first free end oriented towards the ring segment being provided with a first turn-up means, particularly a turn-up roller, and at an opposite second end being hinged to an axially shiftable arm support, near the first end at least a part of the arms being provided with means for supporting the tyre component, the support means in an initial position forming a circumferential support surface for the tyre components, the tyre drum further being provided with means for shifting the arm supports in order to move the second ends of both sets of arms axially towards each other, the arms being tiltable in radial planes from the initial position to a tilting position in order to thus move the first ends axially and radially while pressing the part of the tyre components situated outside of the ring segments against the expanded part of the tyre components situated within the ring segments, the support means comprising at least one support roller provided with a support surface for the tyre component, which support roller is rotatably arranged on the arm.
2. Tyre drum according to claim 1, the arm being provided with at least two support rollers arranged adjacent to each other on either side of the arm.

3. Tyre drum according to claim 1 or 2, the arm being provided with at least two support rollers arranged spaced apart in arm direction.
- 5 4. Tyre drum according to claim 1, 2 or 3, the support roller being arranged on the arm in a free-running manner.
- 10 5. Tyre drum according to any one of the claims 1-4, the support surface of the support roller being in one plane with the surface of the turn-up roller, which in the initial position is tangential to the centre line of the central shaft.
- 15 6. Tyre drum according to any one of the preceding claims, each set of arms comprising primary arms provided with one or more support rollers and secondary arms that have no support rollers and that are situated in between the primary arms, the support rollers of the primary arms defining a circumferential series of support surfaces and the turn-up rollers of the secondary arms being radially recessed with respect to the turn-up rollers of the primary arms.
- 20 7. Tyre drum according to claim 6, the turn-up rollers of the secondary arms with their surface in radial direction extending at the most to the connecting line or chord of the support surfaces of the two support rollers situated adjacently at either side.
- 25 8. Tyre drum according to claim 7, the turn-up rollers of the secondary arms with their surface in radial direction remaining below the connecting line or chord of the support surfaces of the two support rollers situated adjacently at either side.
- 30 9. Tyre drum according to any one of the preceding claims, the turn-up roller of the secondary arms in the initial position being situated with respect to the ring segments in axial direction behind the turn-up roller of the adjacent

primary arms.

10. Tyre drum according to claim 9, the turn-up roller of the secondary arms considered in axial direction being situated between the turn-up roller of the
5 primary arms and the nearest support roller on those arms.

11. Tyre drum according to any one of the claims 1-5, secondary arms provided with a turn-up roller being arranged between the arms provided with one or more support rollers, of which secondary arms the turn-up roller in the
10 initial position is recessed in comparison with the turn-up roller of the adjacent arms provided with one or more support rollers, of which arms the support rollers define a circumferential series of support surfaces.

12. Tyre drum including a turn-up mechanism for use in building an unvul-
15 canized tyre having tyre components of rubber, including reinforcement cords and two bead cores which either may or may not be provided with a bead filling strip, which tyre drum is provided with a central shaft, two ring segments placed around the shaft and spaced apart for supporting the bead cores and means for radially expanding the part of the tyre components that
20 is situated within the ring segments and the tyre drum on either side outside of the ring segments being provided with a set of axially extending arms, the arms at a first free end oriented towards the ring segment being provided with a first turn-up means, particularly a turn-up roller, and at an opposite second end being hinged to an axially shiftable arm support, the tyre drum
25 furthermore being provided with means for shifting the arm supports in order to move the second ends of both sets of arms axially towards each other, the arms being tiltable in radial planes from the initial position to a tilting position in order to thus move the first ends axially and radially while pressing the part of the tyre components situated outside of the ring
30 segments against the expanded part of the tyre components situated within the ring segments, each set of arms comprising primary arms provided with a turn-up roller as well as secondary arms situated in between them and also

provided with a turn-up roller, the turn-up rollers of the primary arms in the initial position defining a circumferential series of support surfaces for tyre components and the turn-up rollers of the secondary arms being radially recessed with respect to the turn-up rollers of the primary arms.

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13. Tyre drum according claim 13, the turn-up roller of the secondary arms in the initial position being situated with respect to the ring segments in axial direction behind the turn-up roller of the adjacent primary arms.

10 14. Tyre drum according to any one of the preceding claims, equipped as a tyre building drum.

15. Tyre drum provided with one or more of the characterizing measures described in the attached description and/or shown in the attached drawing.